Utility Patent Application

CONFIDENTIAL INFORMATION

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TENSION ACTIVATED LIGHTED FISHING LURE

RELATED APPLICATIONS

The present application is a Continuation-In-Part of U.S. Patent Application Serial No. 10/118,643, filed on April 8, 2002, hereinafter abandoned.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to fishing line activity detector and fish attractant and, more particularly, to a tension activated lighted fishing lure.

2. Description of the Related Art

The technology used by anglers to catch fish has become increasingly complex in nature. Fishermen no longer rely on the traditional hook and worm approach to attract fish. Instead, a broad range of products are available, designed to aid the fisher to catch more fish quickly. One of the more popular

aids is that of specialized lures designed to attract a higher rate of fish, thereby increasing the strike rate for a fisher. In keeping with these modern trends, there is a constant need for new and different fishing lures that provide a competitive edge when attracting fish. Many fish are attracted to various types of light, especially reflections that come from body of fish prey. Consequently, a need has been felt for providing a fishing lure that can be lighted upon application of line tension to the lure, illuminating the tail and serving both as a fish attractant and a activity detector.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide an improved lighted fishing lure.

It is a feature of the present invention to provide an improved fishing lure that is illuminated upon application of line tension.

It is a further feature of the present invention to provide an improved fishing lure that includes a removably affixed tail interchangeable with other varied tails.

Briefly described according to one embodiment of the present invention, a fishing lure with an integral light source and fiber optic strands is provided so as to attract more fish. A splay of short fiber optic strands leave the rear of the lure and camouflage a fishing hook. The fiber optic strands are gathered to a collar

that is insertable into a rear end of the lure body. A light-emitting diode (LED) is adjacent to the rear end and allows visible light to travel down the fiber optic strands and exit from the end of the strand thus producing a display of light designed to attract fish. The LED further acts to indicate line activity by a striking fish or other object. The LED is powered by a small watch-type battery and is controlled by a tension-activated switch at the front of the lure body. As tension is applied to the lure by the fishing line, either by a striking fish or a fisher, the circuit is closed and the LED illuminates. If tension is removed by slack in the line, the circuit is opened and the LED returns to a non-illuminated state.

In this manner, the fisher is able to produce a flashing light display designed to attract even more fish.

BRIEF DESCRIPTION OF THE DRAWINGS

The advantages and features of the present invention will become better understood with reference to the following more detailed description and claims taken in conjunction with the accompanying drawings, in which like elements are identified with like symbols, and in which:

FIG. 1 is a side plan view of a tension activated lighted fishing lure according to the preferred embodiment of the present invention; and

FIG. 2 is a cross sectional view thereof; and

FIG. 3 is a cross sectional view illustrating only the body with orifices.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The best mode for carrying out the invention is presented in terms of its preferred embodiment, herein depicted within the Figures 1 through 3.

1. Detailed Description of the Figures

Referring now to **FIG. 1** through **FIG. 3**, a tension activated lighted fishing lure **10** is shown in accordance with a preferred embodiment of the present invention. The fishing lure **10** generally comprises a body **12** and a tail **14**, the tail **14** being removably attached to a rear portion of body **12**. The lure **10** has the general form of standard elongated fishing bait, including other fish, minnows, insects or other similar material. A fish-type form is depicted in the figures as an example.

The body **12** comprises a structurally rigid and sturdy exterior intended to withstand repeated use and the various environmental elements in which people fish, including fresh-water and salt-water environs and temperature extremes, such as ice fishing. It is envisioned that the exterior is manufactured from rigid materials, such as castable urethane or another similar substance. The exterior surface of the body **12** is envisioned as having a variety of aesthetic effects, including the appearance of eyes, mouth, gills, scales and other suitable surface features observable on fish-type bait. The body **12** is elongated and comprises a pair of orifices **16** and **18** (see **FIG. 3**), the orifices **16** and **18** are aligned substantially along an axis that corresponds to an equator about the body **12**.

The first orifice **16** provides ingress and egress to attachment means **20** (described in greater detail below). The second orifice **18** provides ingress and egress to tail **14** for removable attachment and detachment, allowing for the interchangeability of other alternate tails **14'**. The interior of body **12** is substantially hollow to accommodate the electrical circuitry and illumination source (LED) necessary to provide illumination to the tail **14**.

Attachment means **20** is envisioned to have a variety of configurations suitable for securing the lure **10** to a fishing line. As depicted in the preferred embodiment, attachment means **20** comprises a substantially elongated shaft **22** terminating at two ends, one end comprising an eyelet **24** and an opposing end comprising a base **26**. A portion of the shaft **22** and the entire eyelet **24** project outwardly from body **12** through first orifice **16**. An elastomeric O-ring **28** is positioned on the interior of body **12** and lies adjacent to first orifice **16**, permitting shaft **22** to pass therethrough. The O-ring **28** acts to seal the interior of body **12**, including the electrical circuitry and attendant components, from ingress of water or other foreign substances that might damage the body **12** and/or the electrical circuitry. Intermediate to the O-ring **28** and the base **26** is an outwardly biased return spring **30**. When a force is applied so that the base **26** is drawn toward the O-ring **28**, the return spring **30** is compressed (storing potential energy), and once the force is removed, the stored potential energy resiliently returns the spring **30** to the outwardly biased position. Attachment

means **20** is threadably adjustable about return spring **30**, so that clockwise rotation of shaft **22** either tightens or loosens the tension on return spring **30**, and counterclockwise rotation of shaft **22** provides opposite adjustable tension. By adjusting the tension of return spring **30**, a user can adjust the sensitivity and frequency of illumination provided by the fishing lure **10**. Specifically, and only by way example, if a user is fishing waters with fish particularly attracted to illumination, the tension on return spring **30** may be lessened so that only light force is necessary to cause intermittent illumination.

The internal circuitry comprises a light emitting diode (LED) **32** adjacently positioned to the second orifice **18**. The LED **32** is envisioned as available in a variety of colors, including yellow, red and/or green. The LED **32** is also envisioned as having solid state circuitry. The LED **32** is electrically coupled to a battery **34** via an electrical wire circuit **36**. The LED **32** and battery **34** are further electrically coupled with a switch **38**. The switch **38** engages base **26** (via direct physical contact) and completes an electrical circuit so that the LED **32** is activated, thereby illuminating tail **14**. Disconnection of base **26** and switch **38** (release of contact and action of return spring **30** to disconnect base **26** and switch **38**) deactivates electrical communication, thus LED **32** returns to a non-illuminated state.

The tail **14** comprises at least one fishing hook **40** centrally placed within a plurality of tail fibers **42**. The tail fibers **42** are formed from feathers, fibrous

strands, or other similar materials. The tail fibers **42** are gathered at a collar **44**. The collar **44** is removably attachable to body **12** through second orifice **18**, thereby permitting interchangeability of tails **14** or **14'**. The collar **44** may have a variety of configurations, including releasable ball bearings, resiliently returnable projections, snap fasteners, or other similar objects suitable for generating frictional impingement of tail **14** within said body **12** via the second orifice **18**. It is envisioned that the tail **14** is coordinated with body **12** in aesthetic appearance. A second O-ring **48** may be provided to provide a seal about second orifice **18**. A plurality of fiber optic strands **46** are intermingled with tail fibers **42**, with one end of each fiber optic strand **46** lying adjacent to LED **32** so as to transmit light produced by LED **32** down the strand and visible to targeted fish. A plurality of fishing hooks **40** may be included as an alternative to a single hook **40**.

2. Operation of the Preferred Embodiment

In accordance with a preferred embodiment of the present invention, the lure **10** is used as a standard fishing lure by attaching the eyelet **24** to a fishing line (not shown). After casting, each time a force (tension) is applied to the lure **10**, either by a striking fish or the tug of the fisher, the switch **38** will close, thereby illuminating the fiber optic strands **46** intermingled and camouflaged within tail **14**. In reaction to the applied force, the base **26** is brought into contact

with switch **38** (compressing return spring **30**) and closing an electrical circuit between LED **32** and battery **34**. The illumination generated by LED **32** is transmitted through fiber optic strands **44**. Thereafter, the return spring **30** returns base **26** to a non-contact position in relation to switch **38**, thereby extinguishing the illumination generated by LED **32**.

The foregoing descriptions of specific embodiments of the present invention have been presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the invention to the precise forms disclosed, and obviously many modifications and variations are possible in light of the above teaching. The embodiments were chosen and described in order to best explain the principles of the invention and its practical application, to thereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular use contemplated. It is intended that the scope of the invention be defined by the Claims appended hereto and their equivalents. Therefore, the scope of the invention is to be limited only by the following claims.